Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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1. (Currently Amended) A surface finishing apparatus for surface finishing a workpiece, comprising:

a workpiece supporting mechanism for supporting a workpiece having a target shaped periphery to be surface finished;

a surface finish tool including a lapping film adapted to be in abutting contact with the target shaped periphery of the workpiece;

a pressure applying mechanism including a plurality of shoes disposed on a rear side of the lapping film to be operative to apply a pressure force to the lapping film to cause the lapping film to be held in pressured contact with the target shaped periphery of the workpiece;

a drive mechanism for rotating the workpiece about an axial direction during operation of the pressure applying mechanism to allow the surface finish tool to surface finish the target shaped periphery of the workpiece into a given geometrical profile, while exhibiting a distribution pattern of the pressure force of the surface finish tool; and

an oscillating mechanism for oscillating at least one of the workpiece and the lapping film in the axial direction of the workpiece in a given stroke such that a working position of the lapping film is cyclically shifted in the given stroke with respect to the target shaped periphery of the workpiece to allow the workpiece to be surface finished in the given geometrical profile,

wherein the pressure applying mechanism operatively holds the plurality of shoes on the rear side of the lapping film in different contact areas in a partially overlapping relationship at a central region of the target shaped periphery of the workpiece and in non-overlapping relationship in both terminal regions of the target shaped periphery such that the plurality of shoes are held in opposing offset positions with offset displacement of each of the

plurality of shoes set to be less than an oscillation stroke provided by the oscillating mechanism to allow the central region of the target shaped periphery to be lapped at a greater rate than those at which other regions of the target shaped periphery are lapped, resulting in the target shaped periphery having a surface profile formed in a mid-concave profile **having a depth equal to or greater than 5 μm and equal to or less than 20 μm**.

2. (Canceled)

3. (Previously Presented) The surface finishing apparatus according to claim 1, wherein:

the lapping film includes a thin-walled base member having an entire surface provided with abrasive material with an abrasive surface of the thin-walled base member; and

the plurality of shoes allows the abrasive surface of the lapping film to be held in contact with the target shaped periphery to be lapped.

4. (Previously Presented) The surface finishing apparatus according to claim 3, wherein the pressure applying mechanism includes a tool holder that operatively holds the plurality of shoes on the rear side of the lapping film.

5. (Canceled)

6. (Previously Presented) The surface finishing apparatus according to claim 1, wherein the plurality of shoes include an even number of shoes with a same width and the even number of shoes are alternately offset at different sides with respect to a center of the target shaped periphery to be lapped.

7. (Previously Presented) The surface finishing apparatus according to claim 1, wherein an amount of offset displacement between the plurality of shoes falls in a value ranging from 3 to 12 % of the given width of the target shaped periphery to be lapped.

8. (Canceled)

9. (Previously Presented) The surface finishing apparatus according to claim 3, wherein the workpiece includes a crankshaft having a journal portion or a pin portion each having the target shaped periphery, on both ends of which fillet portions are formed.

10. (Previously Presented) The surface finishing apparatus according to claim 3, wherein the lapping film includes the thin-walled base member, the thin-walled base member being non-extensible and deformable.

11. (Withdrawn) The surface finishing apparatus according to claim 4, wherein the tool holder further includes a shoe pressure force adjusting unit operative to adjust the shoe pressure force to be applied to the plurality of shoes.

12. (Withdrawn) The surface finishing apparatus according to claim 11, wherein:

a tool shifting mechanism includes the oscillating mechanism oscillating at least one of the workpiece and the lapping film with respect to one another in the axial direction of the workpiece; the apparatus further comprising:

a detecting unit detecting a relative oscillating position of the workpiece with respect to the lapping film during oscillating movement performed by the oscillating mechanism to be indicative of a current relative oscillating movement of the workpiece; and

a controller variably controlling the pressure force adjusting unit to vary the shoe pressure force in response to the current relative oscillating movement of the workpiece such that the lapping film is held in contact with the target shaped periphery of the workpiece to lap the target shaped periphery into the given geometrical profile.

13. (Withdrawn – Currently Amended) The surface finishing apparatus according to claim 12, wherein the controller controls operation of the pressure force adjusting unit such that the pressure force occurring when the oscillating position of the ~~wortkpiece~~ **workpiece** assumes both terminal portions of the oscillating stroke of the workpiece during the oscillating movement thereof becomes greater than that occurring when the oscillating position of the workpiece assumes a central position on the oscillating stroke of the workpiece during the oscillating movement thereof, whereby the given geometrical profile is formed into at least one of a flat shape and a mid-convex shape.

14. (Withdrawn – Currently Amended) The surface finishing apparatus according to claim 12, wherein the controller controls operation of the pressure force adjusting unit such that the pressure force occurring when the oscillating position of the ~~wortkpiece~~ **workpiece** assumes both terminal portions of the oscillating stroke of the workpiece during the oscillating movement thereof becomes smaller than that occurring when the oscillating position of the workpiece assumes a central position on the oscillating stroke of the workpiece during the oscillating movement thereof, whereby the given geometrical profile is formed into a mid-concave shape.

15. (Withdrawn – Currently Amended) The surface finishing apparatus according to claim 13, wherein the controller controls the operation of the pressure force adjusting unit such that a change rate, between the pressure force occurring when the oscillating position of the ~~wortkpiece~~ **workpiece** assumes the both terminal portions of the oscillating stroke of the workpiece during the oscillating movement thereof and the pressure force occurring when the oscillating position of the ~~wortkpiece~~ **workpiece** assumes the central position on the oscillating stroke of the workpiece during the oscillating movement thereof, required for forming the geometrical profile into the mid-convex shape, is set to be greater than that required for forming the geometrical profile into the flat shape.

16. (Withdrawn – Currently Amended) The surface finishing apparatus according to claim 3, wherein the pressure applying mechanism includes first and second presser arms pivotally supported to be moved in an open position and a closing position, first and second shoe cases slidably carried by the first and second presser arms and disposed on the rear side of the lapping film held in contact with the target shaped periphery of **the** workpiece, and first and second pressure force adjusting units cooperating with the first and second shoe cases, respectively, to apply adjustable shoe pressure forces to respective first and second shoes.

17. (Withdrawn) The surface finishing apparatus according to claim 16, wherein the first and second pressure force adjusting units includes first and second lift adjustment elements operatively connected to the first and second shoe cases through first and second presser rods, respectively, and first and second actuators connected to the first and second lift adjustment elements, respectively, to vary angular working positions of the first and second

lift adjustment elements with respect to the first and second presser rods, respectively, for thereby varying the shoe pressure forces to be applied to the first and second shoes, respectively.

18. (Withdrawn) The surface finishing apparatus according to claim 1, wherein:

the workpiece has the target shaped periphery with the geometrical profile, lapped in a mid-concave shape;

a tool holder is connected to the pressure applying mechanism and includes a tool support; and

the surface finish tool includes a burnishing roller supported by the tool support in pressured contact with the target shaped periphery of the workpiece for thereby burnishing terminal convex portions of the target shaped periphery in given surface roughness.

19. (Withdrawn) The surface finishing apparatus according to claim 18, wherein the burnishing roller is operative to flatten sharp edges on both the terminal convex portions of the target shaped periphery.

20. (Withdrawn) The surface finishing apparatus according to claim 19, wherein the target shaped periphery of the workpiece includes a journal portion or a pin portion of a crankshaft formed with fillet portions on both ends of the target shaped periphery.

21. (Withdrawn) The surface finishing apparatus according to claim 1, wherein:

the workpiece has the target shaped periphery with the geometrical profile, formed in a cylindrical configuration;

the surface finish tool includes a cylindrical burnishing roller supported by the pressure applying mechanism in alignment with the axial direction of the workpiece;

the pressure applying mechanism includes a tool holder supporting the cylindrical burnishing roller; and

a rocking mechanism is supported by the pressure applying mechanism and rocks the burnishing roller through the tool holder with respect to the axial direction of the workpiece, the target shaped periphery being burnished in a centrally ridged profile that has a central portion larger in diameter than both ends of the central portion.

22. (Withdrawn) The surface finishing apparatus according to claim 21, wherein:

the tool holder is pivotally supported on a pivot shaft and has one end operatively connected to the rocking mechanism to be pivotally moved for causing the burnishing roller to rock with respect to the target shaped periphery of the workpiece; and

the pivot shaft is pressured against the target shaped periphery of the workpiece by the pressure applying mechanism during rocking operation of the rocking mechanism.

23. (Withdrawn) The surface finishing apparatus according to claim 22, wherein:

the rocking mechanism includes a pair of pinch members operatively connected to the one end of the tool holder, a pair of support members supporting the pair of pinch members, respectively, and a rocking source supported by the pressure applying mechanism and connected to the support members to rock the tool holder; and

an amount of rocking movement is controlled to enable a rocking angle of the support members to be controlled.

24. (Withdrawn) The surface finishing apparatus according to claim 23, wherein the rocking source includes a piston/cylinder mechanism.

25. (Withdrawn) The surface finishing apparatus according to claim 21, wherein the workpiece includes a crankshaft having a journal portion or a pin portion each having the target shaped periphery on both ends of which fillet portions are formed.

26. (Currently Amendment) A surface finishing apparatus for surface finishing a workpiece, comprising:

workpiece supporting means for supporting a workpiece having a target shaped periphery to be surface finished;

a surface finish tool including a lapping film adapted to be in abutting contact with the target shaped periphery of the workpiece;

pressure applying means for applying a pressure force to the lapping film to cause the lapping film to be held in pressured contact with the target shaped periphery of the workpiece, ~~the pressure applying means including~~ **through** ~~a plurality of shoes~~ **portions of the pressure applying means** disposed on a rear side of the lapping film;

rotating means for rotating the workpiece about an axial direction during operation of the pressure applying means to allow the surface finish tool to surface finish the target shaped periphery of the workpiece into a given geometrical profile, while exhibiting a distribution pattern of the pressure force of the surface finish tool; and

oscillating means for oscillating at least one of the workpiece and the lapping film in the axial direction of the workpiece in a given stroke such that a working position of the lapping film is cyclically shifted in the given stroke with respect to the target shaped periphery of the workpiece to allow the workpiece to be surface finished in the given geometrical profile,

wherein the pressure applying means operatively ~~holds the plurality of shoes~~ **applies pressure** on the rear side of the lapping film in different contact areas in a partially overlapping relationship at a central region of the target shaped periphery of the workpiece and in non-overlapping relationship in both terminal regions of the target shaped periphery such that the ~~plurality of shoes~~ **portions of the pressure applying means disposed on the rear side of the lapping film** are held in opposing offset positions with offset displacement of each of the ~~plurality of shoes~~ **portions of the pressure applying means disposed on the rear side of the lapping film** set to be less than an oscillation stroke provided by the oscillating means to allow the central region of the target shaped periphery to be lapped at a greater rate than those at which other regions of the target shaped periphery are lapped, resulting in the target shaped periphery having a surface profile formed in mid-concave profile **having a depth equal to or greater than 5 μm and equal to or less than 20 μm**.

27. (Currently Amended) A method of surface finishing a workpiece, the method comprising:

supporting a workpiece having a target shaped periphery to be surface finished;

holding a surface finish tool including a lapping film in abutting contact with the target shaped periphery of the workpiece;

disposing a plurality of shoes on a rear side of the lapping film to apply a pressure force to the lapping film to cause the lapping film to be held in pressured contact with the target shaped periphery of the workpiece;

rotating the workpiece about an axial direction to allow the surface finish tool to surface finish the target shaped periphery of the workpiece into a given geometrical profile, while exhibiting a distribution pattern of the pressure force of the surface finish tool; and

oscillating at least one of the workpiece and the lapping film in the axial direction of the workpiece in a given stroke such that a working position of the lapping film is cyclically shifted in the given stroke with respect to the target shaped periphery of the workpiece to allow the workpiece to be surface finished in the given geometrical profile,

wherein the plurality of shoes are held on the rear side of the lapping film in different contact areas in a partially overlapping relationship at a central region of the target shaped periphery of the workpiece and in non-overlapping relationship in both terminal regions of the target shaped periphery such that the plurality of shoes are held in opposing offset positions with offset displacement of each of the plurality of shoes set to be less than an oscillation stroke of the oscillating to allow the central region of the target shaped periphery to be lapped at a greater rate than those at which other regions of the target shaped periphery are lapped, resulting in the target shaped periphery having a surface profile formed in a mid-concave profile **having a depth equal to or greater than 5 μm and equal to or less than 20 μm**.